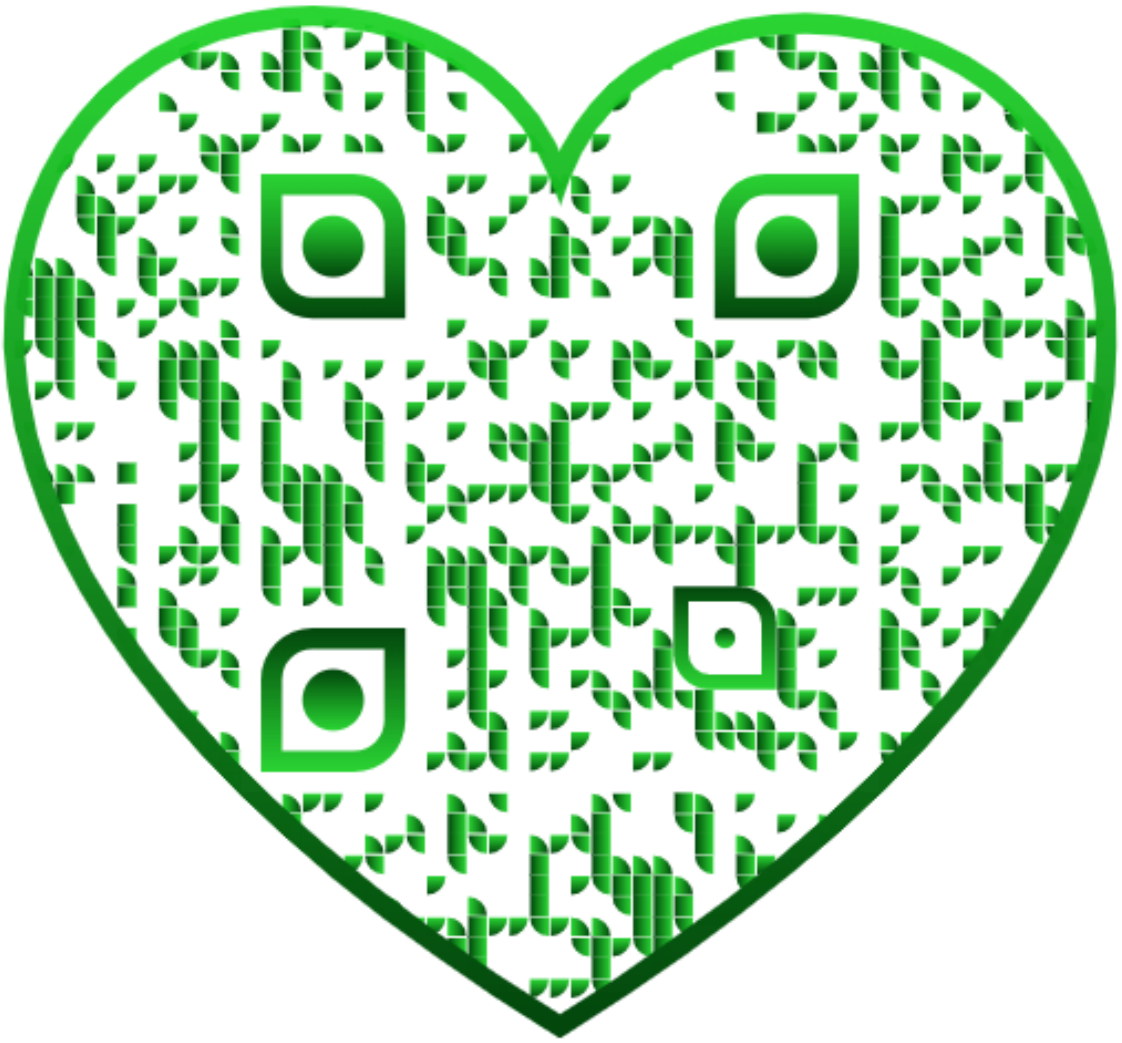
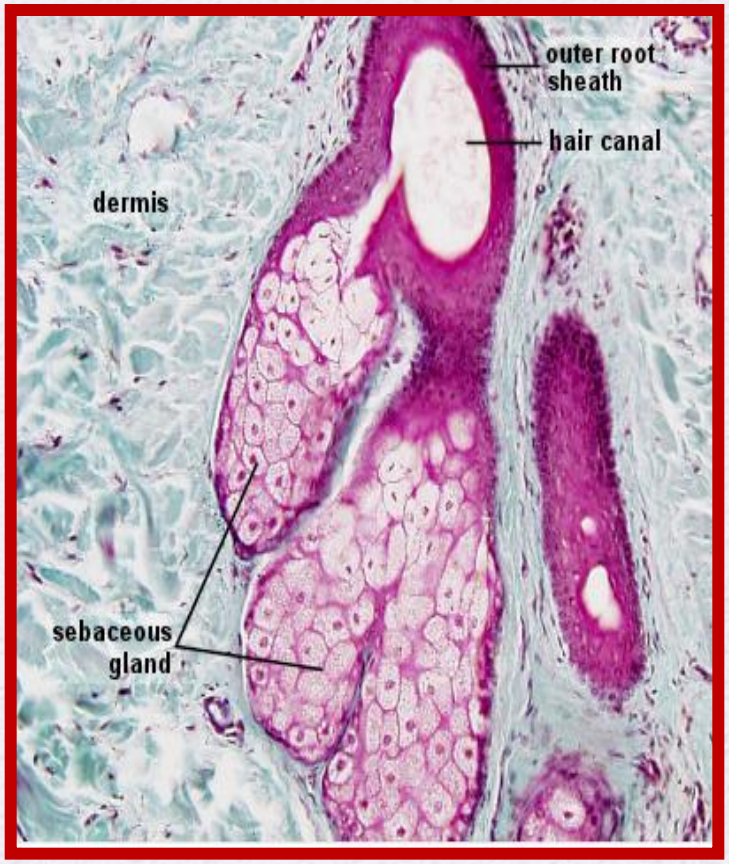
Sebacous glands disorders



Skin appendages

Sebaceous glands:

- Attached to hair follicles or open freely.
- Present in the scalp, forehead, face,upper chest except palms and soles.
- Secrete sebum to moisturize the skin.
- Sebaceous glands are under the control of androgens.



ACNE:WHY DO WE CARE

- Affects
  - >80% of adolescents
  - >40% of adults over than 25
- Genetics plays a role
- Associated with
  - Disfigurement
  - Pain
  - Loss of confidence
  - Depression
- Effects on quality of life are comparable to those suffering from chronic diseases like asthma, seizures and diabetes

NOTE:-

- **the acne disease can cause psychological disorder to the pts.**
- **Due to the Pts isolation alone from his ugly appearance.**

PATHOPHYSIOLOGY

- Typically begins at puberty.
- Disorder of the pilosebaceous unit (face, neck, chest, shoulders, back).
- Increased androgen production leads to increased sebum. Abnormal keratinization and desquamation obstructs the pilosebaceous duct and *Propionibacterium acnes* proliferates in excess sebum and breaks down sebum into free fatty acids. Proinflammatory mediators are activated and result in inflammatory acne.

NOTE:-

- **there are multifactorial causes.**
- **the androgen is more in the puberty so the acne increases more in this time.**

EXTRINSIC INFLUENCES

- Friction and manipulation
- Occlusive products
- Medications:
  - Steroids
  - Antiepileptics
  - Progestin only contraceptives

NOTE:-

- **The acne in patients using topical steroids gave a special character, it comes as polymorphic acne which means there are comedons, papules, pustules and nodulocysts.**

DIET, STRESS and ACNE

- Controversial link between diet and acne although many patients believe that their acne is influenced by certain foods
- Western diet may be associated with acne
- Skim milk is associated with acne in teenage girls
- Stress: acne among university students was associated with exam stress

NOTE:-

- **the stress is most important cause in acne vulgaris.**

CLINICAL FEATURES

Mild acne

- Comedomes:
  - Closed (whiteheads) are closed flesh colored papules 1-3mm in size
  - Open (blackheads) are open and the contents of the comedome oxidizes upon expose to the light (tyrosine is oxidized to melanin)

Moderate acne

- Comedomes/Papules/Pustules

Severe acne

- Papules/Pustules/Nodulocystic lesions

NOTE:-

- **classification according to the separation, distribution and the lesions.**
  - pustule:- elevated pus filled lesion less than 1cm.
  - cystic:- epithelial lining that contain (solid, keratin or fluid) but in acne (keratin & sepum).
  - nodule:- elevated solid lesion more than 1cm.

CLOSED COMODOME

OPEN COMODOME

PAPULAR ACNE

PUSTULAR ACNE

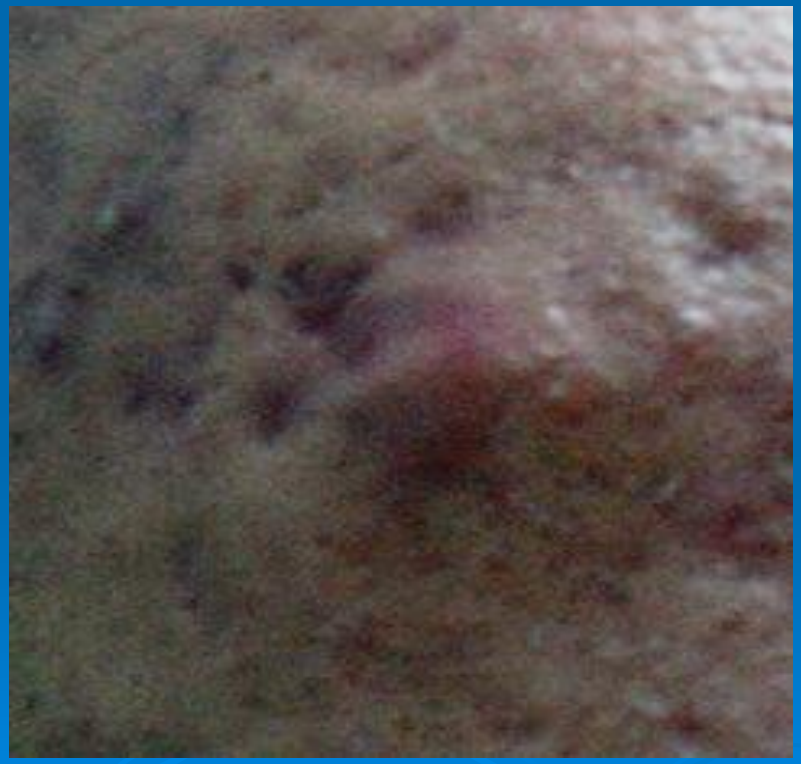
NODULOCYSTIC ACNE

CLINICAL FEATURES

- Postinflammatory changes can occur with healing and resolve over time
- Risk of scarring
  - Mild acne low risk
  - Moderate acne medium risk
  - Severe acne high risk c/o punctate depressions (ice-pick scars), depressed scars (thumbprint scars), hypertrophic papular scars, keloids

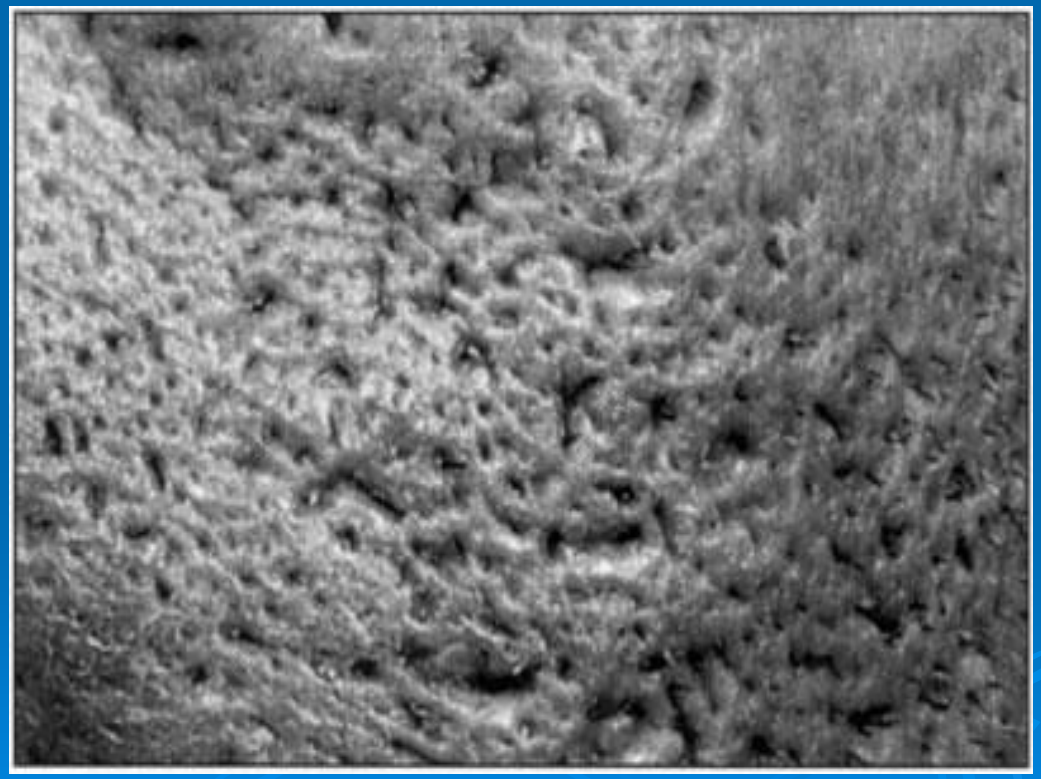
ICE PICK SCAR

THUMBPRINT SCARS



ATROPHIC SCARS

HYPERTROPHIC SCARS



KELOIDS

NOTE:-

- **nodulocytic can convert to keloid.**
- **Keloid:- hypertrophic scar without limitation to the site of lesion.**

SEVERE ACNE

- Acne fulminans
  - Severe acne in young males in association with fever, arthritis
- Acne conglobata
  - Comedomes, pustules, foul smelling cysts, sinus tracts, atrophic and keloid scarring
- Treat with high dose steroids

ACNE FULMINANS

ACNE CONGLOBATA

DIFFERENTIAL DIAGNOSIS

- Keratosis pilaris
- Perioral dermatitis
- Angiofibromas
- Pseudofolliculitis barbae
- Acne keloidalis nuchae
- Folliculitis
- Hidradentis suppurativa

KERATOSIS PILARIS

- Small perifollicular papules on the face and the extensor surfaces of the arms and legs
- May be seasonal
- May improve w/ keratolytic moisturizers containing ammonium lactate or urea

NOTE:-

- **keratosis pilaris**
  - it is more prevelent in the winter.

KERATOSIS PILARIS

PERIORAL DERMATITIS

- Idiopathic
- May occur after use of topical steroids
- Treatment- Discontinue steroid use, topical benzoyl peroxide, topical antibiotics

NOTE:-

- **be more in women because they care about making their faces blushed**
- **symptoms:- edema – redness - rash**

PERIORAL DERMATITIS

ANGIOFIBROMAS

- Tuberous sclerosis
- Rubbery papules/plaques
- Flesh colored to brownish
- Seen on nasolabial folds
- Begin in childhood
- Treat with pulsed dye laser therapy or carbon dioxide laser resurfacing

NOTE:-

- **tuberous sclerosis**
  the child is born with neurological symptoms, tumors in multiple areas and skin changes including patches of lighter skin and small areas of thickened, smooth or bumpy skin.

ANGIOFIBROMAS

SHAVING

- Pseudofolliculitis barbae
  - Beard hair, when shaved closely, causes inflammation, papules and nodules
- Acne keloidalis nuchae
  - Papules and nodules on the nape of the neck
- Avoid close shaves, use depilatories, topical retinoids, benzoyl peroxide

PSEUDOFOLLICULITIS BARBAE

ACNE KELOIDALIS NUCHAE

FOLLICULITIS

- Papules/pustules on the face, back buttocks
- Typically *staph aureus*
- Benzoyl peroxide or topical antibiotics may help prevent outbreaks

FOLLICULITIS

HIDRADENITIS SUPPURATIVA

- Disease of the follicle
- Deep tender nodules in the groin, axilla, buttocks
- Difficult to treat
- May respond to Accutane

NOTE:-

- **HIDRADENITIS SUPPURATIVA**
- **sinus tracts, pus**
- **TTT:-**

topical antibiotics, tetracycline. doxycyclin.

HIDRADENITIS SUPPURATIVA

TOPICAL RETINOIDS

- Tretinoin (Retin A), Adapalene (Differin), Tazarotene (Tazorac)
  - Excellent choice for comedomal acne
  - Improves follicular desquamation and dyschromia
  - Anti-inflammatory action (Differin best)
  - Use at night over entire face, exposure to the sun increases irritation
  - Results in six to eight weeks. May increase concentration over time
  - Degraded by prolonged exposure to the sun and when used with benzoyl peroxide (Differin most photostable)

TOPICAL RETINOIDS

- Adverse affects
  - Irritant potential (Tazorac most irritating, Differin least)
  - Sun sensitivity
  - Pustular eruption after 3-4 weeks
  - Potential hyper/hypopigmentation in black and Asian patients
  - Contraindicated in pregnancy

TOPICAL ANTIBIOTICS

- Erythromycin, Clindamycin,
  - Decrease *P.acnes* and percentage of free fatty acids
  - Slow to act
  - Resistance often develops over time
  - Best used in combination with topical retinoids/benzoyl peroxide
  - Rare cases of pseudomembranous colitis w/ topical clindamycin

BENZOYL PEROXIDE

- Bactericidal effect on *P.acnes*
- No evidence of resistance
- BP combined with a topical antibiotic may help decrease the presence of antibiotic resistant *P. acnes*
- Mild comedolytic action, decreases free fatty acids
- Adverse effects
  - Irritation
  - Bleaches clothing and hair
  - Allergic contact dermatitis

AZELAIC ACID

- Dicarboxylic acid that is bacteriostatic against *P.acnes* and normalizes keratinization
- Most effective when used with other agents
- Side affects uncommon
- Use in caution in teens w/ dark complexions due to potential risk of hypopigmentation

SYSTEMIC ANTIBIOTICS

- Primarily used for moderate to severe inflammatory acne
- Decreases *P.acnes*
- Reduces amount of free fatty acids
- Preferred agents: Tetracyclin, Doxycyclin, Minocyclin
- High rates of resistance to Erythromycin

HORMONAL CONTROL

- Oral contraceptive pills in females
  - Increases production of sex hormone binding globulin leading to a decrease of circulating androgens
  - Decreases ovarian androgen production
- Ortho tri-cyclen, Estrostep FDA approved for the treatment of acne
- Oral antiandrogens (spironolactone) can be useful
- Oral corticosteroids, short course for patients with severe inflammatory disease

ISOTRETINOIN

- Systemic retinoid used for nodulo-cystic acne
- Most effective treatment with remission in 60% after single course (15-24 weeks)
- Reduces sebum production
- Normalizes follicular keratinization
- Decreases inflammation
- Baseline CBC, LFT's, cholesterol, triglycerides, urinalysis, pregnancy test. Repeat monthly
- Post pubertal females must be on contraception and have two sequential negative pregnancy tests before starting

ISOTRETINOIN

- Adverse effects
  - Teratogenic (facial dysmorphism, abnormalities of brain, eye, ear, CV system, thymus) and retinoid embryopathy can occur with single exposure during gestation
  - Drying/chapping of skin and mucous membranes
  - Myalgias/arthralgias
  - Photosensitivity
  - GI effect: transaminitis, lipid abnormalities, pancreatitis
  - Hematological: leucopenia, elevated platelets and ESR
  - Neurological: pseudo tumor cerebri
  - Renal: proteinuria, hematuria
  - Mood disorders, depression, suicidal ideations and suicides

NOTE:-

- **isotretinoin is the best drug of choice for acne.**
  (sever & moderate) nodulo-cystic ance.
  - before using this drug we should do diagnosis of :-
  - CBC
  - Lipid profile
  - liver function test
- **dosage 20-40-mg/ daily**

MISCELLANEOUS THERAPY

- Comedome removal
  - May be helpful if comedomes are resistant to other treatments
- Chemical peels
  - Little evidence supporting efficacy
- Intralesional steroids
  - Used for large inflammatory nodules/cysts
  - Can be associated with local atrophy

NOTE:-

- **Erotogenic, therefor it’s contraindicated in pregnant women or married women**
- **إذا هو ضروري تستخدمه لازم نستخدم تحميله منع الحمل على الاقل لضمان عدم حدوث حمل والحمل يكون بعد ايقاف هذا العلاج بشهرين على الاقل.**

- **cystic nodule may be surgically excised if ther are in the chest or shoulder but if they are multiple, we use systematic like isotretinoin**

OVERVIEW OF THERAPY

- Mild acne: Topical therapy with retinoid for comedomes, add BP or topical antibiotic if mild inflammation present
- Moderate acne: Topical therapy plus oral antibiotics for inflammatory lesions, add BP to reduce antibiotic resistance. Consider OCP's
- Severe acne: Accutane if topical therapy and oral antibiotics fail